

Multi-Bin Printer

Abstract

A high-speed printing and sorting machine. A first diverter diverts a first batch of items into a first bin, a second diverter diverts a second batch into a second bin, and so on. A plurality of O-rings and flat belts confront one another and rotate in opposite directions to carry diverted items to their respective bins. A nip formed by opposed rollers causes the items to slow down. Protruding rollers constrain the items to momentarily deviate from a path of travel and the inherent resiliency of the O-rings is harnessed to snap the trailing ends of each slowing down leading item out of the way of the trailing item so that shingling may occur. If a gap between items is too large, the opposed rollers of the nip stop rotating until the gap is restored to a preferred distance so that the desired amount of shingling may be maintained.